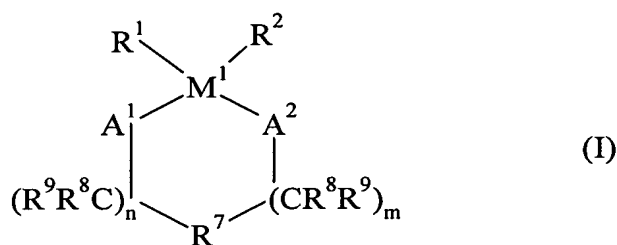


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A substantially amorphous poly(α -olefin) possessing a M_w of from about 500 to about 50,000, a M_w/M_n of from about 1.0 to about 10, a Kv_{100} of from about 10 to about 10,000, an iodine number of from about 0.0 to about 10, and a T_g of below about -60°C , obtained from the polymerization of at least one α -olefin having from 2 to about 20 carbon atoms and prepared by a process comprising polymerizing the monomer in the presence of hydrogen and a catalytically effective amount of a catalyst, wherein the catalyst comprises the product obtained by combining a metallocene catalyst with a cocatalyst, the metallocene catalyst being at least one *meso* compound of general formula:



wherein:

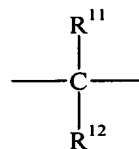
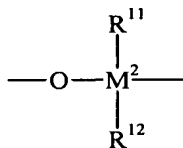
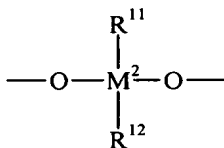
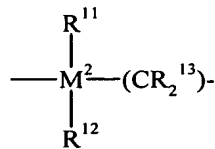
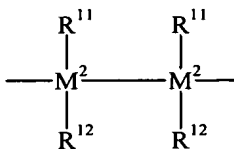
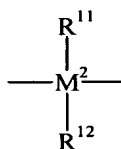
A^1 and A^2 are independently selected from the group consisting of mononuclear and polynuclear hydrocarbons;

M^1 is a metal from group IVb, Vb, or VIb of the Periodic Table;

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R¹ and R² are independently selected from the group consisting of hydrogen, C₁-C₁₀ alkyl, C₁-C₁₀ -alkoxy, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₇-C₄₀ alkylaryl, C₈-C₄₀ arylalkenyl and halogen;

R⁷ is selected from the group consisting of:



=BR¹¹, =AlR¹¹, -Ge-, -Sn-, -O-, -S-, =SO, =SO₂, =NR¹¹, =CO, =PR¹¹ and =P(O)R¹¹, where R¹¹, R¹², and R¹³ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₈-C₄₀ arylalkenyl, and C₇-C₄₀ alkylaryl, or, alternatively, R¹¹ can be combined with R¹² or R¹¹ can be combined with R¹³, in each case with the atoms connecting them, to form a ring; and M² is selected from the group consisting of silicon, germanium, and tin;

R⁸ and R⁹ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl,

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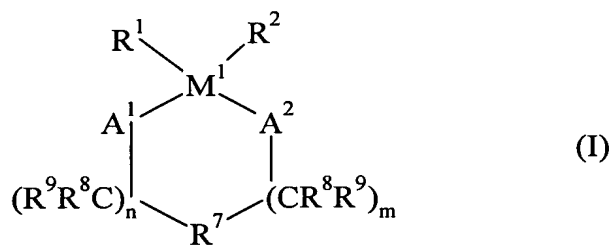
C_7 - C_{40} arylalkyl, C_8 - C_{40} arylalkenyl, and C_7 - C_{40} alkylaryl;

m and n are identical or different and are zero, 1, or 2, with m plus n being zero, 1 or 2.

2. (original) The poly(α -olefin) of Claim 1 wherein the cocatalyst is an aluminoxane.
3. (original) The poly(α -olefin) of claim 2 wherein the metallocene catalyst is combined with hydrogen and the aluminoxane cocatalyst in any order thereof in the presence or absence of monomer.
4. (original) The poly(α -olefin) of claim 1 wherein the α -olefin is 1-decene.
5. (original) The poly(α -olefin) of claim 1 wherein the metallocene catalyst based in terms of the transition metal M^I , is present in an amount from 0.0001 to about 0.02 millimole/liter and the cocatalyst is present in an amount from 0.01 to about 100 millimoles/liter.
6. (original) The poly(α -olefin) of claim 1 wherein the catalyst is selected from the group consisting of *meso*- $Me_2Si(2-Et-Ind)_2ZrCl_2$, *meso*- $Et(Ind)_2ZrCl_2$, *meso*- $Et(IndH_4)_2ZrCl_2$, *meso*- $Me_2Si(Ind)_2ZrCl_2$, *meso*- $Me_2Si(IndH_4)_2ZrCl_2$, *meso*- $Me_2Si(2-Me-Ind)_2ZrCl_2$, and *meso*- $Me_2Si(2-Me-4-Ph-Ind)_2ZrCl_2$.

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7. (original) A lubricant composition comprising a lubricant and a viscosity-modifying amount of a poly(α -olefin) wherein said poly(α -olefin) is substantially amorphous and possesses a M_w of from about 500 to about 50,000, a M_w/M_n of from about 1.0 to about 10, a Kv_{100} of from about 10 to about 10,000, an iodine number of from about 0.0 to about 10, and a T_g of below about -60°C , and wherein the poly(α -olefin) is obtained from the polymerization of at least one α -olefin having from 2 to about 20 carbon atoms and prepared by a process comprising polymerizing the monomer in the presence of hydrogen and a catalytically effective amount of a catalyst, wherein the catalyst comprises the product obtained by combining a metallocene catalyst with a cocatalyst, the metallocene catalyst being at least one *meso* compound of general formula:



wherein:

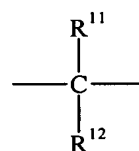
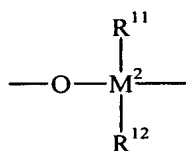
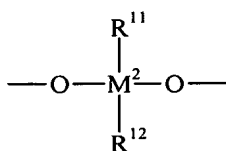
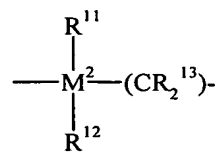
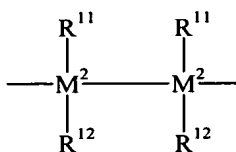
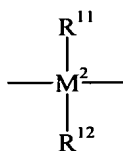
A^1 and A^2 are independently selected from the group consisting of mononuclear and polynuclear hydrocarbons;

M^1 is a metal from group IVb, Vb, or VIb of the Periodic Table;

R^1 and R^2 are independently selected from the group consisting of hydrogen, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_1\text{-C}_{10}$ -alkoxy, $\text{C}_6\text{-C}_{10}$ aryl, $\text{C}_6\text{-C}_{10}$ aryloxy, $\text{C}_2\text{-C}_{10}$ alkenyl, $\text{C}_7\text{-C}_{40}$ arylalkyl, $\text{C}_7\text{-C}_{40}$ alkylaryl, $\text{C}_8\text{-C}_{40}$ arylalkenyl and halogen;

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R⁷ is selected from the group consisting of:



=BR¹¹, =AlR¹¹, -Ge-, -Sn-, -O-, -S-, =SO, =SO₂, =NR¹¹, =CO, =PR¹¹ and =P(O)R¹¹,

where

R¹¹, R¹², and R¹³ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₈-C₄₀ arylalkenyl, and C₇-C₄₀ alkylaryl, or, alternatively, R¹¹ can be combined with R¹² or R¹¹ can be combined with R¹³, in each case with the atoms connecting them, to form a ring; and M² is selected from the group consisting of silicon, germanium, and tin;

R⁸ and R⁹ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₈-C₄₀ arylalkenyl, and C₇-C₄₀ alkylaryl;

m and n are identical or different and are zero, 1, or 2, with m plus n being zero, 1 or 2.

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8. (original) The lubricant composition of claim 7 wherein the α -olefin is 1-decene.

9. (original) The lubricant composition of claim 7 wherein the metallocene catalyst based in terms of the transition metal M¹, is present in an amount from 0.0001 to about 0.02 millimole/liter and the cocatalyst is present in an amount from 0.01 to about 100 millimoles/liter.

10. (original) The lubricant composition of claim 7 wherein the catalyst is selected from the group consisting of *meso*-Me₂Si(2-Et-Ind)₂ZrCl₂, *meso*-Et(Ind)₂ZrCl₂, *meso*-Et(IndH₄)₂ZrCl₂, *meso*-Me₂Si(Ind)₂ZrCl₂, *meso*-Me₂Si(IndH₄)₂ZrCl₂, *meso*-Me₂Si(2-Me-Ind)₂ZrCl₂, and *meso*-Me₂Si(2-Me-4-Ph-Ind)₂ZrCl₂.

11 - 14. (Canceled)

15. (New) A lubricant composition comprising a lubricant and a viscosity-modifying amount of a poly(α -olefin) wherein said poly(α -olefin) is substantially amorphous and possesses a M_w of from about 500 to about 50,000, a M_w/M_n of from about 1.0 to about 10, a Kv₁₀₀ of from about 10 to about 10,000, an iodine number of from about 0.0 to about 10, and a T_g of below about -60°C, and wherein the poly(α -olefin) is obtained from the polymerization of at least one α -olefin having from 2 to about 20 carbon atoms and prepared by a process comprising polymerizing the monomer in the presence of hydrogen and a catalytically effective amount of a catalyst, wherein the catalyst comprises the product

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obtained by combining a metallocene catalyst with an aluminoxane cocatalyst, the metallocene catalyst being selected from the group consisting of *meso*-Me₂Si(2-Et-Ind)₂ZrCl₂, *meso*-Et(Ind)₂ZrCl₂, *meso*-Et(IndH₄)₂ZrCl₂, *meso*-Me₂Si(Ind)₂ZrCl₂, *meso*-Me₂Si(IndH₄)₂ZrCl₂, *meso*-Me₂Si(2-Me-Ind)₂ZrCl₂, and *meso*-Me₂Si(2-Me-4-Ph-Ind)₂ZrCl₂, and wherein the metallocene catalyst based in terms of the zirconium is present in an amount from 0.0001 to about 0.02 millimole/liter and the aluminoxane cocatalyst is present in an amount from 0.01 to about 100 millimoles/liter.

16. (New) The lubricant composition of claim 15 wherein the poly(α -olefin) possesses a M_w of from about 1,500 to about 20,000, a M_w/M_n of from about 1.75 to about 3, a K_v₁₀₀ of from about 20 to about 500, an iodine number of from about 0.2 to about 4, and a T_g of below about -70°C and wherein the metallocene catalyst based in terms of the zirconium is present in an amount from 0.00025 to about 0.01 millimole/liter and the aluminoxane cocatalyst is present in an amount from 0.025 to about 50 millimoles/liter.

17. (New) The lubricant composition of claim 15 wherein the α -olefin is 1-decene.

18. (New) The lubricant composition of claim 16 wherein the α -olefin is 1-decene.